PART I - ADMINISTRATIVE

Section 1. General administrative information

Title of project

Smolt Monitoring by Federal and Non-Federal Agencies

BPA project number: 8712700
Contract renewal date (mm/yyyy): 1/1999 ☐ **Multiple actions?**

Business name of agency, institution or organization requesting funding
Pacific States Marine Fisheries Commission

Business acronym (if appropriate) PSMFC

Proposal contact person or principal investigator:

Name	Pam Kahut/Michele Dehart
Mailing Address	45 SE 82nd Dr., Suite 100
City, ST Zip	Gladstone, OR 97027
Phone	(503) 650-5400
Fax	(503) 650-5426
Email address	Pam_Kahut@psmfc.org or mdehart@fpc.org

NPPC Program Measure Number(s) which this project addresses
NPPC Fish and Wildlife Program 3.6F. 10, Sections 303, 503b, 1403.2.8

FWS/NMFS Biological Opinion Number(s) which this project addresses
NMFS Biological Opinion on Hydrosystem Operations, NMFS BO RPA Section 13a

Other planning document references
NMFS 1995 Biological Opinion - RPA Section 8 #16; RPA Section 8 #13 (a)

Short description
Daily passage data through the mainstem, Snake, Columbia and mid-Columbia rivers to facilitate fish passage management decisions, including Biological Opinion implementation, is collected daily. Sampling and marking occur at 8 sites of the larger region.

Target species
yearling chinook, sub-yearling chinook, coho, steelhead, sockeye

Section 2. Sorting and evaluation

Subbasin
Columbia River Mainstem/Snake River Mainstem

Evaluation Process Sort

CBFWA caucus	Special evaluation process	ISRP project type
Mark one or more	If your project fits either of these	Mark one or more categories

caucus	processes, mark one or both	
☒ Anadromous fish ☐ Resident fish ☐ Wildlife	☐ Multi-year (milestone-based evaluation) ☐ Watershed project evaluation	☐ Watershed councils/model watersheds ☒ Information dissemination ☒ Operation & maintenance ☐ New construction ☐ Research & monitoring ☒ Implementation & management ☐ Wildlife habitat acquisitions

Section 3. Relationships to other Bonneville projects

Umbrella / sub-proposal relationships. List umbrella project first.

Project #	Project title/description
20552	SMOLT MONITORING PROGRAM
8712703	Imnaha River SMP
8712702	Comparative Survival Study
8712700	Smolt Monitoring (Federal and Non-Federal)
8332300	Monitor Smolts at the Head of Lower Granite Reservoir and Lower Granite Dam
940330	Fish Passage Center
8332300	Smolt Condition & Arrival Timing
8401400	SMP Marking

Other dependent or critically-related projects

Project #	Project title/description	Nature of relationship
9008000	PITAGIS	Critical Component
9602100	Gas Bubble Disease Research & Monitoring	Critical, one task only

Section 4. Objectives, tasks and schedules

Past accomplishments

Year	Accomplishment	Met biological objectives?
1998	Completed all tasks & objectives	yes
1997	Completed all tasks & objectives	yes
1996	Completed all tasks & objectives	yes
1995	Completed all tasks & objectives	yes

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	Smolt Monitoring - Lower Granite	a	Sample migrants daily in the sample system
		b	Monitor Gas Bubble Symtoms according to FPC protocols
		c	Transmit Data according to FPC protocol

		d	Conduct data verification procedure according to FPC protocols
		e	Project management, planning, work statement/budget preparation
		f	Conduct sampling for implementation of the Smolt Transportation Program
2	Smolt Monitoring - McNary	a	Sample migrants daily in the sample systems
		b	Conduct data verification procedure according to FPC protocol
		c	Monitor for Gas Bubble Symtoms according to FPC protocols
		d	Transmit Data according to FPC protocol
		e	Project management, planning, work statement/budget preparation
		f	Conduct sampling for implementation of the Smolt Transportation Program
3	Smolt Monitoring - Grande Ronde	a	Sample migrants daily in the Sample System
		b	Apply PIT Tags
		c	Transmit Data according to FPC protocol
		d	Conduct data verification procedure according to FPC protocol
		e	Monitor for gas bubble symptoms according to FPC protocols
		f	Project management, planning, work statement/budget preparation
4	Smolt Monitoring - Little Goose	a	Sample migrants daily in the sample system
		b	Monitor Gas Bubble Symtoms according to FPC protocols
		c	Transmit Data according to FPC protocol
		d	Conduct data verification procedure according to FPC protocol
		e	Project management, planning, work statement/budget preparation
		f	Conduct sampling for implementation of the Smolt Transportation Program
5	Hanford Reach Monitoring	a	Apply PIT Tags
0		b	Sample migrants daily in the sample system
0		c	Monitor Gas Bubble Symtoms according to FPC protocols
0		d	Transmit data according to FPC protocol
0		e	Project management, planning, work statement/budget preparation
0		f	Conduct data verification procedure according to FPC protocol
6	Smolt Monitoring - Lower Monumental	a	Sample migrants daily in the sample system
		b	Monitor Gas Bubble Symtoms according to FPC protocols
		c	Transmit data according to FPC protocol
		d	Conduct data verification procedure according to FPC protocol
		e	Project management, planning, work statement/budget preparation

		f	Conduct sampling for implementation of the Smolt Transportation Program
7	Smolt Monitoring - Rock Island	a	Sample Migrants daily in sample system
		b	Monitor Gas Bubble Symtoms according to FPC protocols
		c	Apply PIT Tags
		d	Transmit Data according to FPC protocol
		e	Conduct data verification procedure according to FPC protocol
		f	Project management, planning, work statement/budget preparation
8	Smolt Monitoring John Day Dam	a	Sample migrants daily in the sample system
		b	Monitor for gas bubble symptoms according to the FPC protocols
		c	Transmit data according to FPC protocol
		d	Conduct data verification procedures according to FPC protocols
		e	Project management, planning, work statement/budget preparation
9	Smolt Monitoring at Bonneville Dam	a	Sample migrants daily in the Bonneville I sample system
		b	Monitor for gas bubble symptoms according to the FPC protocol
		c	Transmit data according to the FPC protocol
		d	Conduct data verification procedures according to the FPC protocol
		e	Project management, planning, work statement/budget preparation

Objective schedules and costs

Obj #	Start date mm/yyyy	End date mm/yyyy	Measureable biological objective(s)	Milestone	FY2000 Cost %
1	3/2000	11/2000			14.00%
2	3/2000	12/2000			13.00%
3	4/2000	11/2000			12.00%
4	3/2000	6/2000			8.00%
5	3/2000	7/2000			2.00%
6	4/2000	11/2000			5.60%
7	4/2000	9/2000			12.20%
8	3/2000	11/2000			15.00%
9	3/2000	11/2000			18.20%
				Total	100.00%

Schedule constraints
None

Completion date
Unknown

Section 5. Budget

FY99 project budget (BPA obligated): $1,818,082

FY2000 budget by line item

Item	Note	% of total	FY2000
Personnel	Includes Fringe Benefits	%67	1,255,201
Fringe benefits		%0	
Supplies, materials, non-expendable property		%0	
Operations & maintenance	Includes supplies, materials, etc.	%9	161,459
Capital acquisitions or improvements (e.g. land, buildings, major equip.)		%1	27,604
NEPA costs		%0	
Construction-related support		%0	
PIT tags	# of tags:	%4	72,500
Travel		%2	29,761
Indirect costs		%17	323,924
Subcontractor		%0	
Other		%0	
	TOTAL BPA FY2000 BUDGET REQUEST		$1,870,449

Cost sharing

Organization	Item or service provided	% total project cost (incl. BPA)	Amount ($)
COE	Funding Transportation LGR	%3	66,690
(reimbursable)	Sampling LGS	%3	68,036
	LMN	%3	56,135
	MCN	%3	73,130
	Total project cost (including BPA portion)		$2,134,440

Outyear costs

	FY2001	FY02	FY03	FY04
Total budget	$2,177,130	$2,242,440	$2,309,715	$2,379,006

Section 6. References

Watershed?	Reference
☐	Fish Passage Center Annual Reports 1985 through 1997.
☐	FPC Web Page
☐	Fish Passage Center Weekly Reports 1985-1997
☐	Bonneville and John Day Monitoring Annual Reports 1985-1997
☐	McNary Monitoring Annual Reports 1992-1997
☐	Lower Monumental Annual Reports 1992-1997
☐	Little Goose Monitoring Annual Report 1992-1997

☐	Lower Granite Annual Reports 1992-1997
☐	Lower Grande Ronde Annual Reports 1992-1997

PART II - NARRATIVE

Section 7. Abstract

The federal and non-federal smolt monitoring program (SMP) is a component of the Umbrella Smolt Monitoring Program and provides data on movement of smolts out of major drainages and past the series of dams on the Snake and Columbia rivers. The monitoring sites are the Lower Granite, Little Goose, Lower Monumental, McNary, John Day, Bonneville, Rock Island dams and the Lower Grande Ronde River trap. Indices of migration strength and migration timing are provided for the run-at-large at key monitoring sites. In addition, marked smolts from hatcheries, traps, and dams provide measures of smolt speed and in-river survival through key index reaches. Fish quality, descaling, and gas bubble trauma measures are taken on samples of fish collected at each monitoring site, and provide indicators of the health of the run. These data are used for in-season operational decisions, including implementation of the Biological Opinion measure, relative to flow and spill management, particularly during periods when spill is being provided to improve smolt passage.

Section 8. Project description

a. Technical and/or scientific background

This project is a component of the Umbrella proposal for the Smolt Monitoring Program. Daily information on the status of the smolt outmigration for in-season fish passage management needs through the collection and sampling of smolts at monitoring sites in the Columbia and Snake rivers. Aspects of monitoring that are unique at each site are detailed in this section. The SMP is mandated by the Northwest Power Planning Council Fish and Wildlife Program and is required to implement the measures of the NMFS Biological Opinion. Data developed through the SMP is utilized in development and testing of hypothesis in the regional PATH process.

b. Rationale and significance to Regional Programs

This project includes the non-federal and federal entities part of the regional Smolt Monitoring Program (SMP). The regional SMP includes several other projects identified in the SMP umbrella proposal. The SMP data provides an essential component for making real time and future decisions regarding flow augmentation and spill as they affect wild and hatchery salmonid stocks in terms of survival and rate of migration, and migration timing. Gas bubble trauma data is particularly relevant to strategies for spill and flow management as it relates to implementation of NMFS Biological Opinion measures. Decision-makers utilize information from the SMP on the spring and summer outmigration timing of wild and hatchery chinook salmon and steelhead trout smolts. They also use the data on PIT tagged fish arrival timing at dams, travel time to the dams, and relative survival to the dams. This information provides managers with in-season information on which to base flow augmentation and spill decisions relative to management of Endangered Species Act listed stocks of chinook and steelhead.

c. Relationships to other projects

This project is one component of the Umbrella Proposal for the Smolt Monitoring Program. Please note the other components of the SMP listed in Section 3. The larger Smolt Monitoring Program and the Comparative Survival of PIT tagged hatchery Spring Chinook together form the basis of future regional mitigation measures related to ESA listed and unlisted stocks. The SMP gas monitoring data is a

component in consideration of the Corps of Engineers Gas Abatement Program. The SMP also collects and provides data to several other research projects, as requested. SMP sampling is also conducted to meet implementation requirements of the Corps of Engineers Smolt Transportation Program.

d. Project history (for ongoing projects)

This project has always been a component of basin-wide Smolt Monitoring Program, which is the basis of flows and passage management data submitted to the Fish Passage Center. Agencies and tribes funded under this contract are Idaho Department of Fish and Game (IDFG), Washington Department of Fish and Wildlife (WDFW), Oregon Department of Fish and Wildlife (ODFW), Nez Perce Tribe and Chelan County PUD. (Prior to 1994 this contract also included the funding of the Fish Passage Center budget.)

The contract vehicles for this project have been modified through the years and have been described in the SMP Umbrella proposal. Monitoring sites have been added or deleted as the result of annual reviews by the regional fishery management agencies and reviews conducted by NPPC advisory committees. The SMP is a dynamic program, which must respond to changing management needs. The SMP has been modified over time to meet monitoring and management data needs of the NMFS 1994 Biological Opinion. Rock Island Dam was included in the SMP in 1984 in order to implement NPPC water budget measures. In 1995, PIT tagging of juveniles was added at the Rock Island Powerhouse II bypass trap. A bypass trap has been operated at Powerhouse 2 by Chelan County PUD for the SMP since 1995. Migration timing past the dam and gas trauma monitoring are also conducted at this site. SMP activities occur at each of the dams on the Snake and Columbia River conducting Corps Fish Transportation. Funds at these sites are split between the SMP and the Corps Fish Transportation and Oversight Program.

The Corps funds transportation-related activities, fish ladder hydraulic inspections and part of the daily fish sampling activities. The SMP funds part of the daily fish sampling activities and all of the activities related to gas bubble trauma monitoring, plus SMP funds cover data summarization and daily electronic data transmission. SMP responsibilities at these Corps fish transportation sites are split among state agencies. ODFW conducts the monitoring at Little Goose Dam; WDFW conducts the monitoring at Lower Granite, Lower Monumental and McNary dams. Monitoring at Lower Monumental and McNary dams was originally conducted by NMFS, but WDFW assumed responsibility for this activity in 1988 at Lower Granite Dam and in 1990 at McNary Dam. This resulted in an overall cost reduction due primarily to lower state administration overhead rates and partial time sharing of positions funded through other contracts.

At Lower Monumental Dam, WDFW conducted gatewell sampling from 1985 through 1991, and beginning in 1993, conducted smolt monitoring activities in the newly constructed collection/bypass system. In 1997 components of the CSS were added and in 1998 PIT tag costs were added for the first time.

This project has been a component of the SMP since 1984. The agencies and tribes funded under this contract are identified in Section 1. Dates of operation of each site are included in the following Section 2e. Over the years this project, as a part of the regional SMP, has provided a technical basis for fish passage mitigation and management. Results from the SMP have allowed managers increased information to make informed decisions concerning flow augmentation and spill planning. Results have included the outmigration timing of smolts, biological characteristics of smolts, and relative effect of water temperature and water discharge on outmigrations of wild and hatchery chinook and steelhead. Collection of basic biological and hydroelectric operation data has also been achieved, along with coordination with other research and evaluation studies. The SMP has provided the basis for implementation of dissolved gas water quality waivers granted by the states of Oregon, Washington, and Idaho. Each sub-contractor completes annual reports. In addition, the Fish Passage Center project develops an annual report summarizing the regional SMP. Separate reports will be developed by the Comparative Survival Study (CSS) Oversight Team summarizing and reporting on the results of the CSS.

The budget numbers for previous years for project #8712700 are as follows: 1987 – 800,332; 1988 – 921,430; 1989 – 1,022,337; 1990 – 989,545; 1991 – 1,221,103; 1992 – 1,278,046; 1993 – 1,396,393; 1994 – 682,927; 1995 – 1,139,870; 1996 – 1,696,000; 1997 – 1,299,914; 1998 – 1,696,000; 1999 - 1,818,082.

e. Proposal objectives

The SMP provides a long term, consistent database for fish passage management and mitigation decisions as described in the SMP Umbrella. The project is designed to 1) determine the spring and summer outmigration timing of salmonid smolts, 2) determine for PIT tagged smolts the outmigration timing of salmonid smolts, 3) provide a final report summarizing results of smolt monitoring activities, 4) provide smolt-to-adult survival indices 5) comparative survival analysis of hatchery PIT tagged chinook and an evaluation of the smolt transportation program.

f. Methods

Methods are described in detail in the Smolt Monitoring Program Umbrella proposal.

Lower Granite Dam is located at Snake River Mile 107.5. The SMP has occurred at the project since 1984, and has been sub-contracted through this project to Washington Department of Fish and Wildlife since 1987. The project consists of a non-overflow embankment on the north shore, a navigation lock in mid-channel, a spillway, and a powerhouse on the south shore. Sampling occurs from 0700 to 0700 daily, from April through December or the end of the transportation program. PIT tag detectors at Lower Granite Dam are in place and record PIT tagged marked fish passing the powerhouse. Dissolved gas sampling occurs according to the National Marine Fisheries Service Dissolved Gas Monitoring Plan.

Little Goose Dam is located at the Snake River Mile 70.3. The project consists of a non-overflow embankment on the north shore, a spillway and a powerhouse. Juvenile salmon are regularly transported from Little Goose Dam. SMP sampling at this site is contracted to Oregon Department of Fish and Wildlife since 1987. Sampling occurs from 0700 to 0700 daily. Sampling occurs from April through December or the end of the transportation program. PIT tag detectors at Little Goose Dam are in place and record PIT tagged marked fish passing the powerhouse. Dissolved gas sampling occurs according to the National Marine Fisheries Service Dissolved Gas Monitoring Plan.

Lower Monumental Dam is located at Snake River Mile 41.6. The project consists of powerhouse, spill way and navigation lock. Bypass/transportation facilities became operational at the project in 1993. Sampling occurs on a daily basis from 0700 to 0700 from April through December. Sampling has been contracted to Washington Department of Fish and Wildlife since 1993. PIT tag detectors at Lower Monumental Dam are in place and record PIT tagged marked fish passing the powerhouse. Dissolved gas sampling occurs according to the National Marine Fisheries Service Dissolved Gas Monitoring Plan.

McNary Dam is located at Columbia River Mile 292 approximately 32 miles below the confluence with the Snake River. The project consists of a powerhouse on the south shore, a navigation lock on the north shore and a spillway separating the two. SMP sampling at the site has been contracted to Washington Department Of Fish and Wildlife since 1990. Sampling occurs on a daily basis from 0700 to 0700 from April through December or the end of the transportation program. PIT tag detectors at McNary Dam are in place and record PIT tagged marked fish passing the powerhouse. Dissolved gas sampling occurs at this project and at Ice Harbor Dam according to the National Marine Fisheries Service Dissolved Gas Monitoring Plan.

At Lower Granite Dam, Little Goose, Lower Monumental and McNary dams sampling for the SMP is similar. The sampling system is comprised of screened kaplan turbine units, gatewell slots and bypass channel. The bypass transportation facility is located downstream from the powerhouse. Juvenile salmon in the bypass system are regularly transported from the facility. Timed sub-samples of the juvenile bypass system are collected during each hour of a 24 hour period (0700-0700), the number of fish are sampled by species and expanded by an algorithm to address spill at the facility to create a passage index for that day. Dissolved gas sampling occurs according to the National Marine Fisheries Service Dissolved Gas Monitoring Plan.

Rock Island Dam is located at Columbia River Mile 453.4. The project consists of the original first powerhouse on the east shore, a newer second powerhouse on the west shore and a spillway separating the two. Sampling at the project for the SMP has been contracted to Chelan County Public Utility District since 1985. Sampling at the second powerhouse for the SMP occurs on a daily basis from 0900 to 0900 from April through the end of August. The Rock Island second powerhouse is unscreened so fish enter the bypass system volitionally. Studies have shown that volitional entry to the powerhouse is less than 1% for chinook and 5% for coho and steelhead. All fish in the bypass channel are collected each 24 hours and are enumerated by species. Each species count is expanded for volume of spill to create a passage index. PIT

tagging of chinook and steelhead occurs at this site. Dissolved gas sampling occurs according to the National Marine Fisheries Service Dissolved Gas Monitoring Plan.

The Grande Ronde trap site is located on the Grand Ronde River, 5 kilometers upstream from the confluence with the Snake River. This is a scoop trap, which operates for a twelve-week period from March 15 to June 5, five days per week. PIT tagging for travel time and survival determination occurs at this site. Approximately 7,600 tags are applied at this site.

Hanford Reach PIT tagging up to 3,000 wild subyearling chinook are marked in conjunction with other efforts by the Yakima tribe.

g. Facilities and equipment

All mainstem sampling facilities that are operated and funded as part of the mainstem project operations by the US Army Corps of Engineers. At Lower Granite, Little Goose, Lower Monumental and McNary these systems are part of the juvenile migrant transportation program. Telephone lines at these projects to facilitate data transmission are required. Computers at each of the sampling sites are required for data recording and transmission. The operation of the PIT tag detection facilities and the data recording of those data through PITAGIS is required to successfully implement this project. Operation of the sample and collection facilities owned and operated by Chelan County PUD is required to implement this project. All of the sampling facilities utilized in this project are owned and operated by the entity operating the hydroelectric project. These facilities have been utilized successfully since the beginning of the monitoring program in 1985.

h. Budget

The personnel requirements for implementation of the Smolt Monitoring Program sampling have been modified and refined throughout the years of the SMP. Different state and federal agencies conduct the SMP at various sites. Personnel are hired according to the rules and regulations of each implementing agency and the specific requirements of sampling at each individual site. At some sites the personnel are hired as Pacific States Marine Fisheries Commission employees. This budget line item is the consolidated cost of the personnel at all sites. The sampling requirements of the Umbrella SMP and the annual regional review of the SMP determine personnel requirements of this project.

PIT tagging costs are determined by the cost of the tag, which is presently $2.90 each. The PIT tagging technique is the best available method for it is implemented at Rock Island and the Grand Ronde trap because it is the best method available for development of the migration data required for in season and long term mitigation management decisions. Specific travel time and survival information is dependent upon using this method for these sites and river reaches.

Indirect costs vary for each specific component and are determined by the rules and regulations of the agency implementing the project at the specific site. Pacific States Marine Fisheries Commission (PSMFC) indirect costs are minimal. The PSMFC administration of this contract results in greater efficiency and cost effectiveness compared to the alternative of managing each site contract individually. The annual review of the SMP and the SMP budgets are conducted with the objective of conducting the Program in the most cost efficient manner.

Section 9. Key personnel

Robert McDonald, Chelan PUD
Charlie Morrill, WDFW
Pete Verhey, WDFW (LGR)
Paul Wagner, WDFW
Monty Price, WDFW
Shawn Rapp, ODFW (LGS)
Anne Setter, ODFW (GRN)
Rick Martinson, PSMFC (JDA, BON)

Resumes, as available, follow:

Robert D. McDonald

Chelan County Public Utility District
327 N. Wenatchee Ave.
Wenatchee, WA. 98801
(509) 663-8121 ex4898 (W) (509) 670-0860 (Cell)

Professional Experience

Chelan County Public Utility District *August, 1995 to Present*
Wenatchee, Washington
Full-Time Fisheries Biologist.
As a full-time fisheries biologist I have overseen many of the District's fisheries operations, including the operations of the Rock Island Bypass Trap since 1995 and the Gas Bubble Trauma monitoring program since 1996.

Chelan County Public Utility District *April, 1994 to August, 1995 (summer position)*
Wenatchee, Washington
Part-Time Fisheries Biologist.
As a part-time fisheries biologist I was responsible for oversight of the District's fish guidance tests at Rock Island Dam. This entailed fish handling, identification, enumeration, data collection, analysis and report writing.

Chelan County Public Utility District *April, 1990 to September, 1993 (summer position)*
Wenatchee, Washington
Fish and Wildlife Seasonal Helper
As a Fish and Wildlife helper I was a part of many fish and wildlife projects, including daily operations of the Rock Island Bypass Trap. In that position I transported, identified, enumerated, and PIT tagged downstream migrating salmonids. I also entered and transmitted daily catch data to FPC and took on other duties as assigned.

Education

University of Washington *1992 to 1995*
Seattle, Washington
Bachelor of Science Fisheries

Grays Harbor Community College *1989 to 1991*
Aberdeen, Washington
Associates of Science Fisheries

Organizations

American Fisheries Society *1995 - Present*

Association of Power Biologists *1995 - Present*

Charles Morrill, Fish Biologist, Washington State Department of Fish and Wildlife
Education:

M.S. in Fisheries, University of Idaho, 1972
B.S. in Wildlife Management, University of Maine, 1969

Current Employment and Responsibilities:

Mr. Morrill has over 20 years of professional experience working with Anadromous Salmonids in Washington for the Washington Departments of Fisheries, Wildlife, and now Fish and Wildlife. Since the early 1980's he has worked on and led a variety of projects within the Columbia Basin including Coded-Wire tag recovery programs, Smolt Monitoring Programs at Lower Monumental and Lower Granite Dam, and for the last three years, the Fish Passage/Facility component of the Cowlitz Falls Anadromous Fish Reintroduction Program. Currently I:

Leads and supervises WDFW work at the Cowlitz Falls Fish Facility as part of the Cowlitz Falls Anadromous Fish Reintroduction Program

Supervises WDFW Smolt Monitoring work at Lower Granite Dam (LGR) under the Northwest Power Planning Councils Fish and Wildlife Water Budge Measures Program under the oversight of the Fish Passage Center (FPC).

Supervises WDFW work at Lower Granite Dam as part of the Corps Walla Walla District annual Juvenile Fish Facility Operation Program.

Represents the agency as a technical member on the PIT Tag Steering Committee (PTSC), serves as a co-chair, provides technical direction and guidance for the continued development and use of PIT tags and the PIT tag data base (PTAGIS) within the Columbia Basin. The PTSC is a standing subcommittee under the Fish Passage Advisory Commission (FPAC) and Columbia Fish and Wildlife Authority (CBFWA). The Pacific States Marine Fisheries Commission's (PSMFC) Pit Tag Operations Center (PTOC) handles the day to day management and system operation for system hardware and software.

Represents the agency as technical Co-chair of the PIT Tag Transition Team that is overseeing BPA's project to replace the current 400 KHz PIT Tag system in the Columbia River Basin with a new standard ISO system in time for the year 2000 smolt migration.

Verhey P.,Morrill C., Witalis S. and Ross D. 1997 Lower Granite Dam Smolt Monitoring Program. Annual Report. Washington State Department of Fish and Wildlife. DRAFT. Prepared for United States Department of Energy. Bonneville Power Administration. Division of Fish and Wildlife. Project Number 87-127. Contract Number 88-FC38906.

Verhey P., Morrill C. and Ross D. 1996 Lower Granite Dam Smolt Monitoring Program. Annual Report. Washington State Department of Fish and Wildlife. Prepared for United States Department of Energy. Bonneville Power Administration. Division of Fish and Wildlife. Project Number 87-127. Contract Number 88-FC38906. 26 pages

Verhey P., Morrill C. and Goffredo T. 1995 Lower Granite Dam Smolt Monitoring Program. Annual Report. Washington State Department of Fish and Wildlife. DRAFT. Prepared for United States Department of Energy. Bonneville Power Administration. Division of Fish and Wildlife. Project Number 87-127. Contract Number 88-FC38906.

Verhey P., Morrill C., Goffredo T. and Ross D. 1994 Lower Granite Dam Smolt Monitoring Program. Annual Report. Washington State Department of Fish and Wildlife. Prepared for United States Department of Energy. Bonneville Power Administration. Division of Fish and Wildlife. Project Number 87-127.. Contract Number 88-FC38906. 40 pages

Verhey P., Morrill C. and Kuras J. 1993 Lower Granite Dam Smolt Monitoring Program. Annual Report. Washington State Department of Fish and Wildlife. Prepared for United States Department of Energy. Bonneville Power Administration. Division of Fish and Wildlife. Project Number 87-127. Contract Number 88

PETER A. VERHEY
33984 Beach Shore Dr.
Hermiston, OR
541-567-8499

OBJECTIVE: Seeking promotion to Fish Biologist III, Washington Department of Fish and Wildlife.

PROFESSIONAL SKILLS

- Literate in a variety of computer word processing, spreadsheet and communication applications.
- Have trained and supervised two Fish Biologist I's and eight technicians
- Have produced technical/scientific reports.
- Know PITagIS database, have PIT-tagged, built and operated a PIT-tagging workstation.

EXPERIENCE

4/92-present	**Fish Biologist II**, Pacific States Marine Fisheries Commission. Supervise two Fish Biologist I's and eight scientific technicians as lead biologist for Smolt Monitoring Program at Lower Granite Dam. Duties are scheduling, hiring, purchasing, training, fish sampling, reporting. Also, executed 1994 PIT-tagging program for travel time study and fall chinook PIT-tag recovery program. Starting in 1994, implemented Corps Task Order Contract, including oversight for Corps smolt collection and transportation and performing inspections of the Juvenile Fish Facility and the adult fishway.
9/91-11/91	**Fisheries Technician III**, Washington State Department of Fisheries, Olympia, WA. Performed creel census work and carcass surveys on the Hanford Reach. Interviewed anglers, collected scale samples and fish snouts with CWT tags and recorded data. For carcass surveys, I sampled fall chinook on foot and by motorboat.
8/91-9/91	**Fish Biologist I**, Washington State Department of Wildlife, Olympia, WA. Operated the adult fish trap at Priest Rapids Dam for steelhead escapement study. Counted returning adult steelhead, read brands, took scale samples and recorded data.
4/91-8/91	**Fish Biologist**, Grant County Public Utility District, Ephrata, WA. Operated the adult fish trap at Priest Rapids Dam. Counted and examined adult chinook, sockeye and steelhead. Read brands, jaw-tagged fish and recorded data.

EDUCATION

9/83-6/90	Bachelor of Arts, Biology, Central Washington University, Ellensburg, WA.
9/92-12/92	Completed 12 fisheries credits, University of Idaho, qualifying as fish biologist for WDFW.

RESUME

Ann Loudon Setter

Office Address

ODFW
65495 Alder Slope Rd. Telephone:(541) 426-9052
Enterprise, OR 97828 email:asetter@OregonVos.net

EDUCATION

Master of Science in Fisheries, May 1988. School of Fisheries, University of Washington, Seattle, Washington.

Bachelor of Science in Fisheries, December 1979. College of Fisheries, University of Washington, Seattle, Washington.

PROFESSIONAL EXPERIENCE

March 1995 - present, Supervising Fish and Wildlife Biologist, Oregon Department of Fish and Wildlife.

January 1989 - February, 1995, Research Associate, Aquaculture Research Institute, University of Idaho.

January 1987 - December 1988, Fisheries Biologist II, School of Fisheries, University of Washington.

June 1982 - December 1986, Data Analyst/Biologist, School of Fisheries, University of Washington.

April 1982 - June 1982, Temporary Biologist, Grant County P.U.D., Ephrata, Washington.

March 1980 - March 1982, Senior Library Assistant, Tetra Tech, Inc., Bellevue, Washington.

June 1979 - October 1979, Student Helper V, Fisheries Research Institute, University of Washington, Seattle, Washington.

January 1975 - June 1977, Botanist Student Assistant, Ramapo College, Mahwah, New Jersey.

SPECIAL QUALIFICATIONS AND SKILLS
Operate powerboats
Diverse computer hardware/software/peripherals experience
Certified Scuba Diver
Genetic laboratory analyses (DNA & Protein Electrophoresis)

PROFESSIONAL AFFILIATION

American Fisheries Society

RICK D. MARTINSON
420 E. 8TH ST.
The Dalles, Oregon 97058
(541) 298-4859

WORK EXPERIENCE

Project Leader, Smolt Monitoring Program **3/31/96- present**
National Marine Fisheries Service, The Dalles, OR.

Responsible for the human and fiscal resources of the smolt monitoring project at John Day and Bonneville Dams. Duties include strategic planning, budget preparation, recruiting, training, report writing, data analysis, purchasing, contract renewal, interagency coordination, facility design review, and performance appraisal.

FISH BIOLOGIST, Smolt Monitoring Program **3/89 B**
3/31/96
National Marine Fisheries Service, Rufus, OR.

Member of a team of biologists engaged in activities to monitor and index the seaward migration of juvenile salmonid smolts in the Columbia and Snake River system. Responsibilities included: supervision of on site sampling, training, data recording, coordination of maintenance with the Corps of Engineers, statistical analysis, technical report writing, equipment design, fabrication and repair.

EXPERIMENTAL BIOLOGICAL AIDE, Oregon Department of Fish and Wildlife **4/88**
- 2/89
Clackamas, Oregon 97015.

4/88-9/1 Worked on a sturgeon research project setting long lines in the Columbia and collecting data from catch.
9/88-1/89 Worked on the fall chinook evaluation at Bonneville Dam. Collecting and reading coded wire tags.
1/89-2/89 Completed an informational report on the recreational fishery in the John Day reservoir.

BIOLOGICAL TECHNICIAN, U.S. Fish and Wildlife Service **3/88**
- 4/88
Cook, WA.

Worked on a smolt condition project. Collected biological and photographic samples of juvenile salmonids.

FISHERIES EXTENSION OFFICER, U.S. Peace Corps/Dept of Fisheries **11/85 -**
11/87 Banban, Masinloc, Zambales, Philippines.

Worked as a Peace Corps Volunteer in freshwater fisheries. Activities included design and production of an AV presentation on illegal fishing/coral reef conservation (adopted by PC/Philippines and Dept. of Fisheries, for training and education), provided fisheries extension services to rural Filipinos, designed, built and deployed scrap tire artificial reef, coordinated the procurement and distribution of project materials, and administered a donated scholarship fund.

EDUCATION

Bachelor of Science in Fisheries and Wildlife Biology, 1985.
Iowa State University, Ames, Iowa 50010

SPECIAL TRAINING

Fisheries Training, U.S. Peace Corps, Philippines, 9/85-11/85.
Marine Biology, Virgin Islands Research Station, U.S.V.I. 2/85-5/85.

Section 10. Information/technology transfer

Information from the Smolt Monitoring Program is transmitted in electronic format to the Fish Passage Center on a daily basis. The Fish Passage Center posts the daily information daily on the FPC web

site, for distribution to the public. Data is also summarized on a weekly basis and distributed through the mail to over 450 individuals in addition to the FPC Web page.

Congratulations!